Northeast Regional Association of Coastal Ocean Observing Systems

Progress Report
University of Southern Maine
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1) AN UPDATE ON THE PROGRESS MADE DURING THE SEMIANNUAL PERIOD OF PERFORMANCE THAT ALLOWS ME TO UNDERSTAND KEY ACCOMPLISHMENTS

(a) Organize and convene an Advisory Committee of data users and producers;
Progress: The PI team has organized a 35 member Advisor Committee. Each member has been asked to represent the regional interests of their given program area. For example, the directors of the four coastal zone management programs in the region were asked to nominate one of them to represent their interests on the Committee. A similar approach was taken for interest groups. The Committee includes both "super" users and data providers such as federal agencies and research scientists as well as regular "end" users of the data. The Advisory Committee met February 28, 2006, at which it established four major topics for the prototyping of user products:

- Water quality assessment
- Harmful algal blooms
- Fisheries within an ecosystem context
- Storm surge and inundation

At the Committee's second meeting on June 28, 2006, it followed up on progress in one of these areas – water quality assessment (see (b) below). It also turned its attention to the question of governance and began an iterative process of establishing the principles and criteria by which the governance of a Northeastern Regional Association of Coastal Ocean Observing Systems should be designed. It particularly addressed questions of authority (planning and coordination vs. directive), conflict of interest, membership, and representation.

(b) Achieve a heightened understanding of users' needs;
Progress: As reported in January, an initial synthesis of user needs pointed to three areas -- water quality, navigation, and fisheries – where more in-depth work is needed to describe specific products for users. A rapid prototyping method was envisioned to work with representatives of each sector to develop potential products. This is an iterative process where by users describe their decision making process, prototypes are develop based on that discussion, quickly reviewed and revised until a suitable product(s) is reached. This product will then be the basis for the gap analysis.

Following the initial meeting of the Advisory Committee, the list of primary areas for product prototyping was revised somewhat to the four identified in (a) above. Work has advanced in two of these areas:

Water quality assessment: The first step in the prototyping process is background research on the decision-making requirements facing a user group. In this case, the decision-making requirements revolve around sections 303 and 305 of the Clean Water Act, under which state water quality agencies are required to biennially assess the water quality of marine (and other) water bodies, and, to the extent that they are failing to attain water quality objectives, must set in motion strategies (such as TMDLs) to improve the conditions.

The second step in the prototyping process is to meet with representative decision-makers to understand how they use data, where they obtain it, how satisfied they are with the informational tools available to them, and how ocean observations can be used to improve their decision-making processes. That is, we attempt to build a "use case" that will lead to an understanding of system requirements for ocean observations.

In April 2006, we conducted a focus group among water quality assessment personnel from state environmental agencies in Maine, New Hampshire, Massachusetts, and Rhode Island, as well as the EPA. This was followed up with e-mail feedback on suggested products. Attached is a summary of product ideas that emerged from this process. The highest priority was for mesoscale hydrodynamic models for northeast estuaries and embayments (Product 5 in the summary).

With this information in hand, the development of a hydrodynamic model product that connects large-scale circulation to the hydrodynamics in at least major embayments will proceed. It is expected that co-PI Janet Campbell of UNH will coordinate the development of product concepts for further discussion with the water quality assessment decision-makers.

Fisheries within an ecosystem context: The initial focus is on the improvement and completion of a shrimp product being developed by three partners – the Gulf of Maine Ocean Observing System, the Northeast Fisheries Science Center, and the Maine Department of Marine Resources – for the Northern Shrimp Technical Council. This product will allow the combining of data sets from NMFS, DMR, and GoMOOS to visualize the distribution and abundance of northern shrimp based on environmental conditions. The product will be used by the shrimp council in stock assessment. It is anticipated that this product will serve as a template for other fisheries, in particular a keystone species, such as herring.

In addition to the product prototyping, Keeley Associates, as contemplated in our original proposal, has completed a detailed synthesis of user needs among coastal resource managers. The synthesis follows our protocol of connecting the needs to descriptions of potential products. The synthesis was presented to the Advisory Committee on June 28, and a copy is attached.

(c) Quantify the most important gaps in the system to be filled to meet these needs;
Progress: An inventory of existing observing assets in the region is now underway which will provide important background information for the gap analysis. The gap analysis will be initiated once the user needs discussed above are completed.

(d) Establish the principles by which the ocean data generators, modelers, and users will transform the collection of existing observing system into a network of systems (the "regional coastal ocean observing system" or RCOOS) envisioned for an IOOS;
Progress: As indicated in (a) above, the Advisory Committee has begun its discussion of criteria and principles of governance. In addition:

1. The PI team has met individually with the major academic research institutions in the region to gain a better understanding of their needs and desire to be involved with a Northeast Regional Association.

2. Discussions led by Evan Richert have been held by the GoMOOS Executive Committee concerning the potential pathways by which GoMOOS, as one of the major coastal ocean observing systems in the region, should transition into a larger association of multiple observing and modeling and prediction systems.

These discussions among the major players – users, academic research organizations, industry, and governmental agencies – will be ongoing for some months.

(e) Through the nascent Gulf of Maine Ocean Data Partnership, advance the integration of ocean observation data to the point of reliable implementation, and the Partnership itself to a level of institutional stability;
Progress: The ODP continues to make progress toward its goal of making partner data sets authoritative, discoverable, accessible, and interoperable. Well over 100 data sets from ~20 partners now are registered with the Global Change Master Directory. Following its work plan for 2006, the partnership is establishing two pilot projects to demonstrate accessibility and interoperability, using some of the registered data sets. The intent is to coordinate these pilots with the product prototyping discussed above. The lead pilot will be the Northern Shrimp project. The ODP also is considering seeking an "interoperability" grant from the Environmental Protection Agency in cooperation with the New Hampshire Department of Environmental Services.

2) ANY CURRENT OR ANTICIPATED CHANGES TO THE STATEMENT OF WORK IN THE PROPOSAL (DUE TO PROBLEMS ENCOUNTERED, IMPROVED APPROACH, ETC.).
The project is moving along as expected and according to the process outlined in the grant. We do not anticipate major changes to the work plan.

3) ANY CHANGES IN KEY SCIENTIFIC OR MANAGEMENT PERSONNEL, ESPECIALLY THAT EFFECTS THE SCOPE OF THE WORK AS PROPOSED.

Josie Quintrell, who was serving under contract as project coordinator, has handed off this role to Tom Shyka, director of project development for the Gulf of Maine Ocean

Observing System who, to date, also has been the primary staffer for the Ocean Data Partnership. This transition has gone smoothly. GoMOOS is seeking a program assistant to take over Tom's ODP role.

4) A COMMENTARY (ANALYSIS) ON ACTUAL BUDGET EXPENDITURES IN RELATION TO ANTICIPATED BUDGET EXPENDITURES.

Budget expenditures are on track for where we are in the work plan. It should be noted that the funding did not arrive at the University of Southern Maine until September 2005; thus, the funds have been available (as of June 2006) for only three-quarters of a year, even as second year funds now have become available (as of April). Subcontracts with GoMOOS and UNH (Dr. Campbell) have been extended to recognize second year funding, per the original proposal.